

CLAIMS

I claim:

1. A display system comprising:
5 a pair of displays, the displays being at an obtuse angle to each other;
and
a beam splitter so positioned relative to the two displays at the bisectrix
of said angle to combine images from the displays whereby one image is
transmitted by the beam splitter and the other image is reflected by the beam
10 splitter to provide direct view of images from the displays.
2. The display system of claim 1, wherein the displays are at an
angle of 180 degrees relative to each other.
- 15 3. The display system of claim 1, wherein the displays are at an
angle greater than 90 degrees to about 170 degrees relative to each other.
4. The display system of claim 1, wherein the displays are at an
angle of from about 110 degrees to about 140 degrees relative to each other.
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5. The display system of claim 1, wherein the displays are at an
angle of approximately 120 degrees relative to each other.
6. The display system of claim 1 in which the displays are flat
25 panel LCDs.
7. The display system of claim 1,
wherein the displays each have a polarized light output, the
polarization for both displays being the same; and
30 wherein the images can be separated based on polarization.
8. The display system of claim 7, in which the polarization is
modified by adding quarter wave plates, respectively, to the light paths from

the LCDs so that the images from the respective displays as viewed via the beam splitter are separated by right and left circular polarized light.

5 9. The display system of claim 7, in which circular polarization is created by a single quarter wave plate located between the beam splitter and the eye of a viewer.

10 10. The display system of claim 7, wherein the polarization for both displays is circular.

11. The display system of claim 10, wherein the beam splitter combines images from both displays to provide viewable overlapping images that respectively have circular polarization in opposite directions.

15 12. The display system of claim 11 wherein the displays are at an angle of 180 degrees relative to each other.

20 13. The display system of claim 11 wherein the displays are at an angle greater than 90 degrees to about 170 degrees relative to each other.

14. The display system of claim 11, wherein the displays are at an angle of from about 110 degrees to about 140 degrees relative to each other.

25 15. The display system of claim 11, wherein the displays are at an angle of approximately 120 degrees relative to each other.

30 16. A method of displaying stereo images, comprising simultaneously displaying a left image on a display and a right image on another display such that the left and right images have the optical polarization in the same direction, and using a beam splitter so positioned relative to the two displays that one can be viewed directly through the beam

splitter and the other can be viewed by reflected light from the beam splitter combining those images in a common light path such that the optical polarization of the left image portion and the right image portion are different in such common light path such that the image portions can be separated
5 based on optical polarization.

17. The method of claim 16, further comprising discriminating the respective images in the common light path using optical polarization.

10 18. The method of claim 17, wherein the images are color images, each being composed of an assemblage of lines of different respective colors, and wherein the color image from one display is an arrangement in a one sequence and the color image from the other display is in an arrangement in the opposite sequence.

15 19. A method of presenting a stereoscopic image for viewing, comprising presenting a left eye image on a display, presenting a right eye image on another display that is at an angle relative to the first mentioned display, both said presenting steps presenting such images having optical
20 polarization in the same direction, and using a beam splitter that is so positioned relative to the two displays combining in a substantially common light path the respective images such that the respective images in the common light path have different optical polarization, whereby the images can be separated based on polarization so that one image can be viewed directly
25 through the beam splitter by one eye and the other can be viewed by reflected light from the beam splitter by the other eye.

20. The method of claim 19, further comprising discriminating between the left eye image and right eye image for viewing by respective left and right eyes the respective left and right eye images from the light in the common light path.

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21. The method of claim 19, further comprising inverting the image data for one of the images for presenting for viewing in substantially superposed relation to the other image.

10 22. A device for rotating the polarization direction of polarized light, comprising

a source of linear polarized light that has a polarization direction at 45 degrees to a linear axis and is transmitted along an optical path, and

15 a reflector in a plane that is parallel to and intersects the linear axis and oriented to reflect such linear polarized light,

whereby the polarization direction of the reflected linear polarized light relative to the polarization direction of the linear polarized light prior to reflection is rotated 90 degrees about the optical path.

20 23. A method of rotating the polarization direction of linear polarized light that has a polarization direction at 45 degrees to a linear axis and is transmitted (propagates) along an optical path, comprising

reflecting such linear polarized light using a reflector that is in a plane that is parallel to and intersects the linear axis,

25 whereby the polarization direction of the reflected linear polarized light relative to the polarization direction of the linear polarized light prior to reflection is rotated 90 degrees about the optical path.

30 24. A display system, comprising,
a first display having optical polarization characteristics,
a second display smaller in area than the first display and having

optical polarization characteristics, the second display being at an angle to the first display

5 a beam splitter at the bisectrix of the angle between the first and second displays combining in superimposed viewable relation along a common light path images from the second display with images from a corresponding area of the first display by transmitting an image from one display and reflecting an image from the other display while rotating the plane of linear polarization or sense of circular polarized light.

10 25. A stereo display device, comprising
a flat display having a polarized light output, and a beam splitter positioned relative to the display for transmitting light from one part of the display to a viewing area and reflecting light from another portion of the display to the viewing area while rotating the direction of plane polarized light
15 or changing the sense of circular polarized light that is reflected, the light being provided along a common light path for viewing by discriminating based on polarization characteristics.

20 26. A stereo display comprising two image generators at an obtuse angle relative to each other and a beam splitter at the bisectrix of the obtuse angle.

25 27. The display of claim 26, wherein the beam splitter is located to transmit light from one image generator and to reflect light from the other image generator, the light from the beam splitter being along a common light path and being capable of discrimination based on optical polarization.